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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,928	07/24/2001	Hideo Kato	35. C15601	3568

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NEW YORK, NY 10112

EXAMINER

DICUS, TAMRA

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 11/08/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/910,928

Applicant(s)

KATO, HIDEO

Examiner

Tamra L. Dicus

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2002 (amendment).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 16 and 21-23 rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,421,188 to Maehara.

Maehara teaches an optical element including a substrate of quartz or fluorite, with an antireflection/stress adjusting film of silica with fluorine injected ions into the film (equivalent to silica containing fluorine) on the substrate surface. See col. 3, lines 65-67, col. 4, lines 42-67, col. 5, lines 5-7, lines 52-63, and col. 6, lines 17-29.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,421,188 to Maehara to USPN 5,028,967 to Yamada et al. and further in view of USPN 6,224,976 to Takushima et al.

Maehara essentially teaches the claimed invention. Maehara does not disclose the

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fluorine concentration of claims 17 and 18, or the refractive index range of claim 19. Yamada teaches an optical element such as a lens for ultraviolet rays that teaches using fluorine-containing silica glass, where the concentration of fluorine in silica is 2-4 mol percent, meeting Applicant's range of fluorine between 0.1 to 10, including not less than 1 mol percent. See col. 2, lines 25-30. Regarding the refractive index property between 1.6 to 1.80, while Yamada does not specifically disclose this property, it is inherently present since the same components are used. See also col. 4, lines 35-47. Maehara and Yamada are analogous art because both references are from the same field of endeavor, namely optic technology. Hence it would have been obvious to one of ordinary skill in the art to modify the optical element of Maehara to include fluorine in molar quantity for the purpose of optimizing purity as taught by Maehara at col. 3, lines 15-30.

Maehara does not disclose adding MgF_2 , LiF , or Na_3AlF_6 , as per instant claim 20. However, Takushima invention is directed to an optical laminated multilayer film with an antireflective layer comprising MgF_2 , LiF , and/or Na_3AlF_6 . Takushima explains the aforementioned additives are known high-refractive index materials and useful for UV-cutting filters or sheets for television at col. 15, lines 29-50, col. 17, lines 44-55 and col. 18, lines 32-42. Maehara and Takushima are analogous art because both references are from the same field of endeavor, namely optic technology. Therefore, it would have been obvious to one of ordinary skill in the art to modify the optical element of Maehara to further include a layer of MgF_2 , LiF , and/or Na_3AlF_6 for the purpose of providing high-refractive index useful for ultraviolet cutting sheets as taught by Takushima. The examiner has established a *prima facie* case of obviousness and has provided evidentiary support thereof for the rejection under 35 U.S.C. 103(a).

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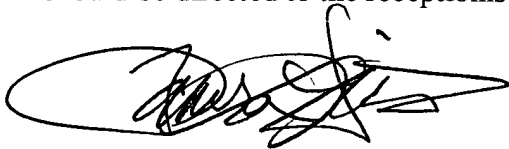
Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Abstract of JP 07244202 A teaches using MgF₂, LiF, and Na₃AlF₆ for antireflection properties. Abstract of JP 61159602 A teaches a multilayer antireflection coat for optical elements comprising layers of MgF₂, LiF, and Na₃AlF₆.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

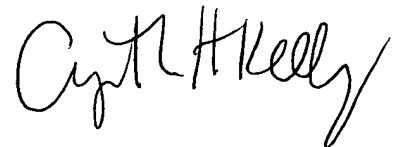
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8329 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Tamra L. Dicus
Examiner
Art Unit 1774

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700



October 30, 2002